

WHAT IS CLAIMED:

- 1 SUB
2 B1
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1. A method for reducing a level of amyloid- β ($A\beta$) peptides *in vivo*, which method comprises administering an $A\beta$ level reducing dose of an estrogen compound to an animal, wherein the animal has an increased level of $A\beta$.
 2. The method according to claim 1, wherein the level of amyloid is a level of soluble amyloid in the brain of the animal.
 3. The method according to claim 1, wherein the estrogen compound is 17β -estradiol.
 4. The method according to claim 1, wherein the estrogen compound is a composition of conjugated equine estrogen.
 5. The method according to claim 1, wherein the $A\beta$ peptides comprise $A\beta_{42}$ and $A\beta_{40}$, which method further comprises reducing the ratio of $A\beta_{42}$ to $A\beta_{40}$.
 6. The method according to claim 1, wherein the $A\beta$ peptides are $A\beta_{42}$ peptides.
 7. A method for evaluating the ability of a test compound to reduce a level of $A\beta$ *in vivo*, which method comprises comparing the level of $A\beta$ of an orchidectomized non-human animal treated with the test compound to the level of $A\beta$ in an orchidectomized non-human control animal, wherein a reduction of the level of $A\beta$ in the animal treated with the test compound compared to the control animal indicates the ability of the test compound to reduce the level of $A\beta$ *in vivo*.

1 ~~8.~~ The method according to claim 7, wherein the animal is an ovariectomized
2 (ovx) animal.

1 9. The method according to claim 7, wherein the animal is a guinea pig.

1 10. The method according to claim 7, wherein the animal is a transgenic
2 rodent that expresses a human amyloid precursor protein.

1 11. The method according to claim 10, wherein the animal is a double
2 transgenic rodent that also expresses a presenilin protein.

1 12. The method according to claim 7, wherein the level of A β in brain is
2 evaluated.

1 13. The method according to claim 7, wherein the test compound is an
2 estrogen compound.

1 14. A method for evaluating the ability of a test compound to reduce a level of
2 A β *in vivo*, which method comprises comparing the level of A β of an ovx non-human animal
3 selected from the group consisting of a guinea pig and a transgenic rodent that expresses human
4 amyloid precursor protein treated with the test compound to the level of A β in an ovx non-
5 human control animal, wherein a reduction of the level of A β in the animal treated with the test
6 compound compared to the control animal indicates the ability of the test compound to reduce
7 the level of A β *in vivo*.

1 15. A method for evaluating the ability of a test compound to reduce a ratio of
2 A β 42 to A β 40 *in vivo*, which method comprises comparing a ratio of A β 42 to A β 40 in an
3 orchidectomized non-human animal treated with a test compound to the ratio of A β 42 to A β 40 in
4 an orchidectomized non-human control animal, wherein a reduction of the ratio of A β 42 to A β 40

5 in the animal treated with the test compound compared to the control animal indicates the ability
6 of the test compound to reduce the ratio of A β 42 to A β 40 *in vivo*.

1 ~~16. The method according to claim 15, wherein the animal is an~~
2 ~~ovariectomized (ovx)-animal.~~

1 17. The method according to claim 16, wherein the animal is a guinea pig.

1 18. The method according to claim 15, wherein the compound is an estrogen
2 compound.

3 19. The method according to claim 18, wherein the estrogen compound is
4 17 β -estradiol.

5 ~~20. A method for delaying or preventing the onset of, or ameliorating, a~~
6 ~~disease or disorder associated with amyloidosis, which method comprises administering an A β~~
7 ~~level reducing dose of an estrogen compound to a subject who has an increased risk for~~
8 ~~developing or shows a symptom of the disease or disorder associated with amyloidosis.~~

1 21. The method according to claim 20, wherein the estrogen compound is
2 17 β -estradiol.

1 22. The method according to claim 20, wherein the estrogen compound is
2 administered daily for at least ten days.

1 23. The method according to claim 20, wherein the estrogen compound is
2 administered by a controlled release device.

1 24. The method according to claim 20, wherein the disease or disorder
2 associated with amyloidosis is Alzheimer's disease.

1 25. The method according to claim 20, wherein a ratio of A β 42 to A β 40 is
2 reduced in the subject.

1 (26) A method for predicting an increased likelihood of amyloidosis in a
2 subject, which method comprises observing a reduction in a level of an estrogen compound in the
3 subject compared to a normal level or a level in the subject at an earlier time.

1 27. The method according to claim 26, wherein the estrogen compound is
2 estrogen β 17.

1 28. The method according to claim 26, wherein the estrogen compound is an
2 aromatizable androgen.

1 29. The method according to claim 26, wherein the amyloidosis comprises
2 deposition of A β peptides.

1 30. The method according to claim 29, which comprises predicting an
2 increased likelihood of developing Alzheimer's disease.

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